

**ABSTRACT**

The present invention discloses a microreactor for performing heterogeneous catalytic reactions, being of plate or stack construction for industrial use, with provision made for chambers between the plates for the chemical reaction and for the heat removal. Inside the reaction chambers, catalyst material is applied to the internal walls or filled into recesses, and in all chambers there are spacers. In particular the slot-shaped reaction chambers have channels with a hydraulic diameter smaller than 1500  $\mu\text{m}$  and a ratio of free slot width to free slot height in the range of 10 to 450.